



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,872	10/31/2003	Bernard Frey	NT-284-US	2000
20995	7590	04/10/2006	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			NICHOLAS, SMITH A	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Ca

Office Action Summary	Application No. 10/698,872	Applicant(s) FREY ET AL.	
	Examiner Nicholas A. Smith	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

Claims 1-14 remain for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 7 and 12-13 are rejected under 35 U.S.C. 102(b) as being unpatentable by Kaufman et al. (US Patent 6,264,806).

In regards to claim 1, Kaufman et al. teaches a method of performing continuous bleed-and-feed of process solution (col.3, lines 12-16 and 28-31) from and to a holding tank (figure 1, **102**). Aged process solution (col. 4, lines 40-47) is bled from the holding tank to a secondary container (figure 1, **206**). A predetermined amount of aged solution is measured in the secondary container (col. 4, lines 47-49). The aged solution in the secondary container is then disposed (col. 4, lines 49-51). The secondary container is filled with the predetermined amount of a new solution (col. 4, lines 10-16) from a supply tank (figure 1, **202**). The predetermined amount of the new solution is fed to the holding tank (col. 4, lines 16-21).

In regards to claim 3, Kaufman et al. teaches a secondary container (figure 1, **206**) substantially smaller in volume (col. 4, lines 37-39) compared to the holding tank (figure 1, **102**).

Art Unit: 1742

In regards to claim 4, Kaufman et al. teaches a method of bleeding aged solution (col. 5, lines 53-67 and col. 6, lines 1-6) through a manifold (figure 1, **304**).

In regards to claim 5, Kaufman et al. teaches a method (col. 5, lines 53-67 and col. 6, lines 1-6) of filling the secondary container (figure 1, **306**) with the predetermined amount of the new solution through the manifold (figure 1, **304**).

In regards to claim 7, Kaufman et al. teaches a method of feeding the predetermined amount of the new solution to the holding tank (figure 1, **102**) by flowing the new solution in the secondary container (figure 1, **206**) through an output line (col. 4, lines 40-47).

In regards to claim 12, Kaufman et al. teaches a method of replenishing the DI water to the holding tank (col. 4, lines 10-12).

In regards to claim 13, Kaufman et al. teaches a method (col. 3, lines 52-67 and col. 4, lines 1-3) of replenishing the DI water to the holding tank at a predetermined interval as determined by a chemical real time analyzer (figure 1, **108**).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1742

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 6, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman et al. in view of Nardo (US Patent 5,047,129).

In regards to claims 2 and 6, Kaufman et al. was discussed above. Kaufman et al. does teach filling a secondary container (figure 1, **206**) to a predetermined volume.

However, Kaufman et al. does not teach that the secondary container has a sensor nor does it sense the amount of the predetermined solution. Kaufman et al. does not teach shutting a bleed valve in response to sensing the predetermined amount of the aged or new solution.

Nardo teaches the use of a sensor (figure 3, **21**) to sense a predetermined amount of solution in a secondary container (figure 3, **10a**). Nardo also teaches shutting a bleed valve (figure 3, **31** or **37**) for a holding tank (figure 3, **23** or **26**) in response to sensing the predetermined amount of the aged or new solution in the secondary container. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the teachings of Nardo to Kaufman et al.'s method in order to both fill and empty a secondary container by means of sensors as disclosed by Nardo (col. 2, lines 24-26).

In regards to claim 8, Kaufman et al. does not teach the method of overflowing solution in the secondary container to the holding tank in response to a failure in the step of sensing.

Art Unit: 1742

Nardo teaches the use of an overflow line (figure 3, **23'**) to move overflow solution (col. 3, lines 9-11) from the secondary container (figure 3, **10a**) to the holding tank (figure 3, **26**). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the teachings of Nardo to Kaufman et al.'s method in order to make it possible to actuate a forced circulation of the solution through an overflow line (col. 1, lines 60-66).

In regards to claim 14, Kaufman et al. does not teach sensing a predetermined amount of solution in the secondary container.

Nardo teaches the use of a sensor (figure 3, **21**) to sense a predetermined amount of solution in a secondary container (figure 3, **10a**). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the teachings of Nardo to Kaufman et al.'s method in order to both fill and empty a secondary container by means of sensors (col. 2, lines 24-26).

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman et al. in view of Dukovic et al. (US 6,471,845).

In regards to claim 9, Kaufman et al. does not teach the method of dosing at least one additive into the holding tank corresponding to a volume fraction of the amount of the new solution fed to the holding tank.

Dukovic et al. teaches the method of dosing at least one additive into the holding tank by way of computer software and a dosing algorithm (col. 8, lines 2-15). Dukovic et al. teaches the use of monitoring the addition of plating solution, DI water and additives. While Dukovic et al. do not explicitly teach the delivering the quantity of

Art Unit: 1742

additives corresponding to a volume fraction of the amount of the new solution fed to the holding tank, it would have been obvious to one of ordinary skill in the art at the time of invention to adjust the quantity of additive as claimed in Kaufman et al.'s method because the additive is a results-effective variable as disclosed by Dukovic et al. (col. 9, lines 63-67). See MPEP § 2144.05B.

In regards to claim 10, Kaufman et al. does not teach the method of dosing at a predetermined interval.

Dukovic et al. teaches the method of dosing at least one additive into the holding tank by way of computer software and a dosing algorithm (col. 8, lines 2-15). The timing of delivering the additives can be chosen as a predetermined interval (col. 9, lines 63-67 and col. 10, lines 13-16). It would have been obvious to one of ordinary skill in the art at the time of invention to adjust the timing of dosing an additive as claimed in Kaufman et al.'s method because the additive is a results-effective variable as disclosed by Dukovic et al. (col. 9, lines 63-67 and col. 10 lines 13-16). See MPEP § 2144.05B.

In regards to claim 11, Kaufman et al. does not teach the use of an organic additive.

Dukovic et al. teaches the use of an organic additive (col. 2, lines 16-22). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the conventional organic additives as disclosed by Dukovic et al. in Kaufman et al.'s method because controlling the concentrations of these organic additives is key to manufacturing control, high yield and manageable cost as disclosed by Dukovic et al. (col. 2, lines 16-22).

Art Unit: 1742

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ROY KING 
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700